

**Appln No. 09/955,278**  
**Amdt date June 13, 2006**  
**Reply to Office action of December 13, 2005**

**Amendments to the Drawings:**

The attached sheet of drawings includes replacement sheets 1-12 which includes Figs. 1-8b.

Attachment:            Replacement Sheets 1-12

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**REMARKS/ARGUMENTS**

Claims 1-67 are pending in the application. In the Office action mailed December 13, 2005, claims 1-67 were rejected under 35 U.S.C. § 103(a). The Examiner is thanked for attention to the application.

As an initial matter, previously filed replacement drawings for Figures 1, 2a and 2b were apparently not received by the Examiner. Replacement drawings for Figures 1, 2a and 2b are enclosed herewith, along with the other figures of the application.

Claims 1, 6, 8-9, 14-18, 27, 42, 47, 49-50, and 55-58 are amended and claim 59 is cancelled to correct grammatical and claim dependency issues.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,880,645 ("Everitt et al.") in view of Qureshi (Proceedings of the IEEE; Volume 73 Issue: 9, Date: Sept. 1985; Adaptive equalization; Qureshi, S.U.H.; Page(s) 1349-1387).

Claim 1 is to a high speed adaptive equalizer device. The high speed adaptive equalizer device comprises one or more controllable analog filters and one or more error generators. The one or more error generators comprise one or more inputs for receiving one or more of said filtered data signal output signals from a controllable analog filter, wherein a weighting function is applied to at least one of said filter data signal output signals received from said controllable analog filter to emphasize a first portion of said filter data signal output signal over a second portion of said filter data signal output signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and said second portion corresponding to a zero crossing point of said signal eye pattern.

The Office action states that "Everitt is silent with respect to the weighting of signal to maximize eye opening." Office action, p. 3. The Office action states, however, that "Qureshi discloses that adaptive equalization is intended to deal with ISI [citation omitted] of which eye pattern is a known qualitative measurement of equalization effectiveness. It would have been obvious to one of ordinary skill in the art at the time of invention to maximize eye opening of eye pattern in order to minimize ISI [citation omitted]." Office action p. 3-4.

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The Office action does not indicate that either of Everitt or Qureshi discloses or suggests "one or more error generators...comprising: one or more inputs for receiving one or more of said filtered data signal output signals..., wherein a weighting function is applied to a filtered data signal output signal received from said controllable analog filter, wherein in weighting function is applied...to emphasize a first portion of said filter data signal output signal over a second portion of said filter data signal output signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and a second portion corresponding to a zero crossing point of said signal eye pattern," as specified in claim 1.

The Office action also states that "the amendment to the independent claims appears to recite the underlying purpose of adaptive equalization, which is to minimize ISI, which in turn maximizes the eye pattern opening." Office action, p. 2.

It is respectfully noted that the amendment to the independent claims does not recite the underlying purpose of adaptive equalization, but instead, for example referring to claim 1, recites "wherein a weighting function is applied to at least one of said filtered data signal output signals received from said controllable analog filter to emphasize a first portion of said filtered data signal output signal over a second portion of said filtered data signal output signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and said second portion corresponding to a zero crossing point of said signal eye pattern".

In addition, although it is respectfully noted that the language of the claim controls, the specification discusses a weighting function to create a weighted error function, and that a time-weighted error function may be useful for de-emphasizing the error signal corresponding to the error signal near the zero crossings of the eye in an eye pattern and emphasizing the error signal near the middle of the eye. See e.g., application as filed, p. 8, line 20 - p. 9, line 11.

Accordingly, claim 1 is allowable in view of Everitt and Qureshi.

Claim 1 is also rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent application publication 2002/0034222 to Buchwald et al. in view of Qureshi. The office action states that "Buchwald is silent with respect to the weighting of signal to maximize eye opening."

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Office action, p. 8. The Office action also states that Qureshi discloses that adaptive equalization is intended to deal with ISI [citation omitted] of which eye pattern is a known qualitative measurement of equalization effectiveness. It would have been obvious to one of ordinary skill in the art at the time of invention to maximize eye opening of eye pattern in order to minimize ISI [citation omitted]." Office action, p. 8.

As indicated above, Qureshi does not appear to disclose or suggest a weighting function applied to a filtered data signal output signal received from a controllable analog filter to emphasize a first portion of said filtered data signal output signal over a second portion of said filtered data signal output signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and said second portion corresponding to a zero crossing point of said signal eye pattern, as specified in claim 1.

Accordingly, claim 1 is allowable, as are dependent claims 2-26.

Claim 27 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Everitt in view of Qureshi. Claim 27 is also rejected under 35 U.S.C. § 103(a) as being unpatentable over Buchwald et al. in view of Qureshi.

Claim 27 specifies "receiving said filtered data signals at one or more error generators; applying a weighting function to at least one of said filtered data signals to emphasize a first portion of said filtered data signal over a second portion of said filtered data signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and said second portion corresponding to a zero crossing point of said signal eye pattern."

As discussed above with respect to claim 1, neither Everitt, Qureshi, or Buchwald et al. disclose or suggest "receiving said filtered data signals at one or more error generators; applying a weighting function to at least one of said filtered data signals to emphasize a first portion of said filtered data signal over a second portion of said filtered data signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and said second portion corresponding to a zero crossing point of said signal eye pattern."

Accordingly, claim 27 is allowable, as are dependent claims 28-41.

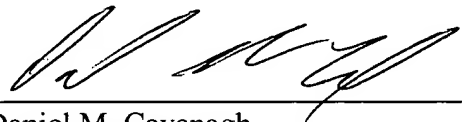
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Claim 42 is also rejected under 35 U.S.C. § 103(a) as being unpatentable over either Everitt in view of Qureshi or Buchwald et al. in view of Qureshi. Claim 42 specifies "one or more error generators...comprising: one or more inputs for receiving one or more of said filtered data signal output signals from a controllable analog filter, wherein a weighting function is applied to at least one of said filtered data signal output signals...to emphasize a first portion of said filtered data signal output signal over a second portion of said filtered data signal output signal, said first portion corresponding to a middle point of a signal eye pattern representing signal amplitude versus time and said second portion corresponding to a zero crossing point of said signal eye pattern."

As discussed above, none of Everitt, Qureshi, or Buchwald et al. discuss such. Accordingly, claim 42 and dependent claims 43-58 and 60-67 are allowable.

Accordingly, the application is in condition for allowance, and allowance of same is respectfully requested.

Respectfully submitted,  
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